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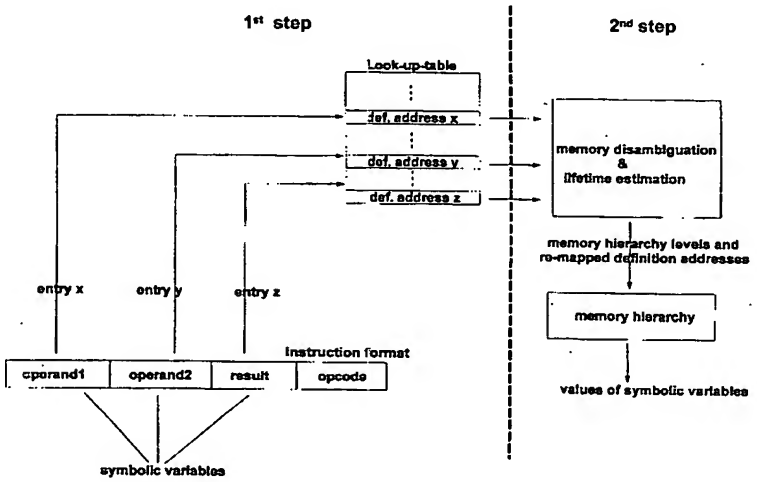
(54) **Title:** A METHOD FOR REALIZING AUTONOMOUS LOAD/STORE BY USING SYMBOLIC MACHINE CODE



(57) **Abstract:** The invention describes a method for realizing autonomous load/store by using symbolic machine code. Instructions in symbolic machine code may have operands and/or results specifying symbolic variables. Symbolic variables naturally arise as the machine code pendant of pointer variables declared in a program written in some high level programming language. Formally, a symbolic variable specifies an entry in a dedicated memory other than a register file of said microprocessor. Said entry is used by the microprocessor in order to determine the definition address of said variable. By analyzing the symbolic variables specified as instruction operands and results and by writing the definition addresses of said symbolic variables into a heap address cache, the microprocessor dynamically determines the lifetimes of the values of said variables and, based on the lifetimes, determines where in the memory hierarchy said values will be stored.

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